Country	**0**
Year	**0**
MODULE	**LAND USE, LAND-USE CHANGE AND FORESTRY**
SHEET	**SUMMARY**

Land-Use Category		*Sector in IPCC Guidelines* [1]	Annual change in carbon stocks, Gg (		
Initial Land Use	Land Use during Reporting Year		Living Biomass A	Dead Organic Matter B	Soils C
Forest Land	Forest Land	5A			
Cropland	Forest Land	5A, 5C, 5D			
Grassland	Forest Land	5A, 5C, 5D			
Wetlands	Forest Land	5A, 5C, 5D			
Settlements	Forest Land	5A, 5C, 5D			
Other Land	Forest Land	5A, 5C, 5D			
	Sub-Total for Forest Land		**0**	**0**	**0**
Cropland	Cropland	5A, 5D			
Forest Land	Cropland	5B, 5D			
Grassland	Cropland	5B, 5D			
Wetlands	Cropland	5D			
Settlements	Cropland	5D			
Other Land	Cropland	5D			
	Sub-Total for Cropland		**0**	**0**	**0**
Grassland	Grassland	5A, 5D			
Forest Land	Grassland	5B, 5D			
Cropland	Grassland	5C, 5D			
Wetlands	Grassland	5C, 5D			
Settlements	Grassland	5C, 5D			
Other Land	Grassland	5C, 5D			
	Sub-Total for Grassland		**0**	**0**	**0**
Wetlands	Wetlands	5A, 5E			
Forest Land	Wetlands	5B			
Cropland	Wetlands	5E			
Grassland	Wetlands	5B			
Settlements	Wetlands	5E			
Other Land	Wetlands	5E			
	Sub-Total for Wetlands		**0**	**0**	**0**
Settlements	Settlements	5A			
Forest Land	Settlements	5B			
Cropland	Settlements	5E			
Grassland	Settlements	5B			
Wetlands	Settlements	5E			
Other Land	Settlements	5E			
	Sub-Total for Settlements		**0**	**0**	**0**
Other Land	Other Land	5A			
Forest Land	Other Land	5B			
Cropland	Other Land	5E			

Grassland	Other Land	5B			
Wetlands	Other Land	5E			
Settlements	Other Land	5E			
	Sub-Total for Other Land		**0**	**0**	**0**
Other (please specify) [4]					
	Sub-Total for Other		**0**	**0**	**0**
Total			**0**	**0**	**0**

[1] Headings from the *IPCC Guidelines* Reporting Instructions p.1.14-1.16: 5A - Changes in Forest and Other Managed Lands; 5D - Emissions and Removals from Soils, and 5E - Other.

[2] For the purpose of reporting, it is necessary to reverse the sign so that the resulting values is expressed as

[3] The IPCC Guidelines and the IPCC Good practice Guidance for Land Use, Land-Use Change and Forestry have reported additional data, you should provide additional information (method, activity data, and emissior

[4] This may include other non-specified sources or sinks such as HWP, etc

[5] Note that in Summary Table 5b of the Overview Module Emissions and Removals are to be reported sepa

CO_2 [5]	Annual CH_4 emissions (Gg)	Annual N_2O emissions (Gg)	Annual NO_x emissions [3] (Gg)	Annual CO emissions [3] (Gg)
CO_2 Emissions/ Removals [2] D = (A+B+C) x (-1)				
0				
0				
0				
0				
0				
0				
0	**0**	**0**	**0**	**0**
0				
0				
0				
0				
0				
0				
0	**0**	**0**	**0**	**0**
0				
0				
0				
0				
0				
0				
0	**0**	**0**	**0**	**0**
0				
0				
0				
0				
0				
0				
0				
0	**0**	**0**	**0**	**0**
0				
0				
0				
0				
0				
0				
0	**0**	**0**	**0**	**0**
0				
0				
0				

0				
0				
0				
0	**0**	**0**	**0**	**0**
0				
0				
0				
0	**0**	**0**	**0**	**0**
0	**0**	**0**	**0**	**0**

Woody Biomass Stocks; 5B - Forest and Grassland Conversion; 5C - Abandonment of

s (-) for removal or uptake and (+) for emissions.

/ provide methodology to estimate NO_X and CO emissions for emissions from fires only. If you
ı factors) used to make these estimates.

rately, which is why not automatic link to that table has been provided.

COUNTRY	**0**						
YEAR	**0**						
MODULE	**Forest Land**						
SUB-MODULE	**Forest Land Remaining Forest Land**						
WORKSHEET	**FL-1a: Annual change in carbon stocks in living biomass (includes above and below ground biomass)** [1]						
SHEET	**1 of 4**						
Land-use Category [2]		Sub-categories for Reporting Year [3]	Area of forest land remaining forest land	Average annual net increment in volume suitable for industrial processing	Basic wood density (tonnes d.m.per m^{-3} fresh volume)	Biomass Expansion factor for conversion of annual net increment (including bark) to above ground tree biomass increment	Average annual aboveground biomass increment
Initial Land use	Land-use during reporting Year		(ha)	(m^3 ha^{-1} yr^{-1})		(dimensionless)	(tonnes d.m. ha^{-1} yr^{-1}) E = B * C * D
			A	**B**	**C**	**D**	**E**
Forest Land	Forest Land						0
							0
		Subtotal	0				
Total							
ABBREV.			**A**	**I_V**	**D**	**BEF_1**	**G_w**

[1] Calculations are based on default method (see Section 3.2.1.1)

[2] See Chapter 2 for approaches in representing land areas.

[3] Land use may be further divided according to forest type and climatic zones in the country. Use the button to insert new subcategories.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.1 (p.3.24ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Root-shoot ratio appropriate to increments (dimensionless) **F**	Average annual biomass increment above and below ground (tonnes d.m ha^{-1} yr^{-1}) G = E * (1+F) **G**
	0
	0
R	**G_{TOTAL}**

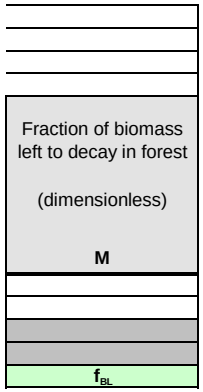
COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1a: Annual change in carbon stocks in living biomass (includes above and below ground biomass)**
SHEET	**2 of 4**

Land-use Category		Sub-categories for Reporting Year [1]	Carbon fraction of dry matter (default is 0.5)	Annual increase in carbon due to biomass increment	Annually extracted volume of roundwood	Biomass density (tonnes d.m.m^{-3} fresh volume)	Biomass expansion factor for converting volumes of extracted roundwood to total aboveground biomass (including bark)
Initial Land use	Land-use during reporting Year		(tonnes C tonne d.m.$^{-1}$)	(tonnes C yr^{-1})	(m^3 yr^{-1})		(dimensionless)
			H	I = A * G * H I	J	K	L
Forest Land	Forest Land			0			
				0			
		Sub-total		0	0		
Total							
ABBREV.			**CF**	**ΔC_{FFG}**	**H**	**D**	**BEF_2**

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.1 (p.3.24ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.


Fraction of biomass left to decay in forest
(dimensionless)
M
f_{BL}

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1a: Annual change in carbon stocks in living biomass (includes above and below ground biomass)**
SHEET	**3 of 4**

Land-use Category		Sub-categories for Reporting Year [1]	Annual carbon loss due to commercial fellings (tonnes C yr^{-1}) N = J * K * L * (1-M)* H	Annual volume of fuelwood gathering (m^3 yr^{-1})	Biomass density (tonnes d.m. m^{-3} fresh volume)	Biomass expansion factor for converting volumes of extracted roundwood to total aboveground biomass (including bark) (dimensionless)	Annual carbon loss due to fuelwood gathering (tonnes C yr^{-1}) R = O * P * Q * H
Initial Land use	Land-use during reporting Year		**N**	**O**	**P**	**Q**	**R**
Forest Land	Forest Land		0				0
			0				0
		Sub-total	0	0			0
Total							
ABBREV.			**$L_{fellings}$**	**FG**	**D**	**BEF_2**	**Lfuelwood**

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.1 (p.3.24ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Forest areas affected by disturbances (ha yr^{-1})	Average biomass stock of forest areas (tonnes d.m. ha^{-1})
S	**T**
0	
Adisturbance	**Bw**

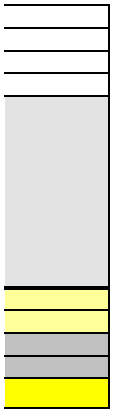
COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1a: Annual change in carbon stocks in living biomass (includes above and below ground biomass)**
SHEET	**4 of 4**

Land-use Category		Sub-categories for Reporting Year [1]	Fraction of biomass left to decay in forest	Annual other losses of carbon	Annual decrease in carbon due to biomass loss	Annual change in carbon stocks biomass
Initial Land use	Land-use during reporting Year		(dimensionless)	(tonnes C yr^{-1})	(tonnes C yr^{-1})	(tonnes C yr^{-1})
				V = S * T * (1-U) * H	W = N+R+V	X = I-W
			U	**V**	**W**	**X**
Forest Land	Forest Land			0	0	0
				0	0	0
		Sub-total		0	0	0
Total						**0**
ABBREV.			**F_{bl}**	**$L_{other\ losses}$**	**ΔC_{FFL}**	**ΔC_{FFLE}**

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.1 (p.3.24ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.



COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1b: Annual change in carbon stocks in dead organic matter (dead wood and litter)** [1]
SHEET	**1 of 3**

Land-use Category		Sub-categories for Reporting Year [2]	Area of forest land remaining forest land	Annual transfer into dead wood	Annual transfer out of dead wood	Carbon fraction of dry matter	Annual change of carbon in dead wood
Initial Land use	Land-use during reporting Year		(ha)	(tonnes d.m. ha^{-1} yr^{-1})	(tonnes d.m. ha^{-1} yr^{-1})	(default is 0.5) (tonnes C (tonne d.m.)$^{-1}$)	(tonnes C yr^{-1}) E = A *(B-C)* D
			A	**B**	**C**	**D**	**E**
Forest Land	Forest Land						0
							0
		Sub-total	0				0
Total							
ABBREV.			**A**	**B_{into}**	**B_{out}**	**CF**	**ΔC_{FFDW}**

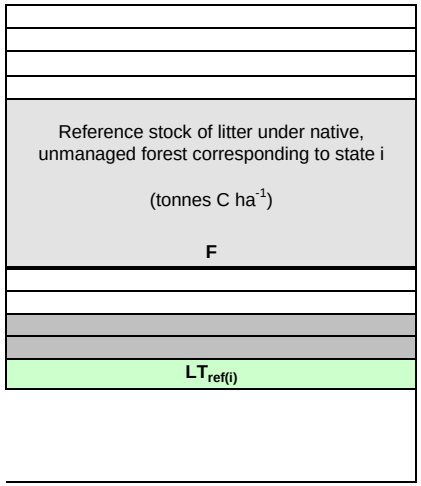
[1] The calculation is based on Tier 2 since Tier 1 assumes that the net change in carbon in dead wood and litter is zero.

[2] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY,** ***CHAPTER 3, SECTION 3.2.1.2 (p.3.32ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.


Reference stock of litter under native, unmanaged forest corresponding to state i
(tonnes C ha-1)
F
LTref(i)

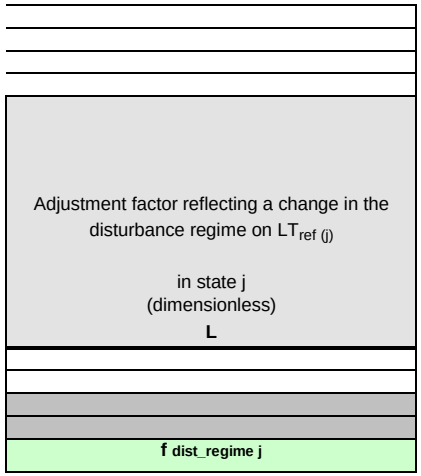
COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1b: Annual change in carbon stocks in dead organic matter (dead wood and litter)**
SHEET	**2 of 3**

Land-use Category		Sub-categories for Reporting Year [1]	Adjustment factor reflecting the effect of management intensity or practices on $LT_{ref(i)}$ in state i	Adjustment factor reflecting a change in the disturbance regime on $LT_{ref\ (i)}$ in state i	Stable litter stock under previous state i	Reference stock of litter under previous state j	Adjustment factor reflecting the effect of management intensity or practices on $LT_{ref\ (j)}$
Initial Land use	Land-use during reporting Year		(dimensionless)	(dimensionless)	(tonnes C ha^{-1}) I = F * G * H	(tonnes C ha^{-1})	in state j (dimensionless)
			G	**H**	**I**	**J**	**K**
Forest Land	Forest Land				0		
					0		
		Sub-total			0		
Total							
ABBREV.			**$f_{mgt\_intensity\ i}$**	**$f_{dist\_regime\ i}$**	**C_i**	**$LT_{ref\ (j)}$**	**$f_{mgt\_intensity\ j}$**

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.2.1.2 (p.3.32ff)***

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.


Adjustment factor reflecting a change in the disturbance regime on $LT_{ref\ (j)}$
in state j
(dimensionless)
L
f dist_regime j

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1b: Annual change in carbon stocks in dead organic matter (dead wood and litter)**
SHEET	**3 of 3**

Land-use Category		Sub-categories for Reporting Year [1]	Stable litter stock under previous state j (tonnes C ha^{-1}) M = J * K* L **M**	Forest area undergoing a transition from state i to j (ha) **N**	Time period of the transition from state i to j Default is 20 yrs (yr) **O**	Annual litter carbon stock change (tonnes C yr^{-1}) P = (M-I) * N / O **P**
Initial Land use	Land-use during reporting Year					
Forest Land	Forest Land		0			0
			0			0
		Sub-total	0	0		0
Total						
ABBREV.			**C_j**	**A_{ij}**	**T_{ij}**	**ΔC_{FFLT}**

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.2 (p.3.32ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Annual change in carbon stocks in dead organic matter (tonnes C yr^{-1}) Q = E+P **Q**
0
0
0
0
ΔC_{FFDOM}

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1c1: Annual change in carbon stocks in mineral soils** [1]
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year [2]	Forest area undergoing a transition from state i to j	Time period of the transition from SOC_i to SOC_j	Reference carbon stock under native, unmanaged forest on a given soil	Adjustment factor reflecting the effect of a change from the native forest to the forest type in state i	Adjustment factor reflecting the effect of management intensity or practices on forest in state i
Initial Land use	Land-use during reporting Year		(ha)	(default is 20 yr) (yr)	(tonnes C ha^{-1})	(dimensionless)	(dimensionless)
			A	**B**	**C**	**D**	**E**
Forest Land	Forest Land						
		Sub-total	0				
Total							
ABBREV.			**A_{ij}**	**T_{ij}**	**SOC_{REF}**	**$f_{forest\ type\ i}$**	**$f_{man\ intensity\ i}$**

[1] The calculation is based on Tier 2 since Tier 1 assumes that the net change in carbon in mineral soil, for forest land remaining forest land is zero.

[2] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY,** ***CHAPTER 3, SECTION 3.2.1.3 (p.3.38ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Adjustment factor reflecting the effect of a change in the disturbance regime to state i with respect to the native forest (dimensionless) **F**	Stable soil organic carbon stock under previous state i (tonnes C ha^{-1}) G = C * D * E * F **G**
	0
	0
	0
	0
$f_{dist\ regime\ i}$	**SOC_i**

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1c1: Annual change in carbon stocks in mineral soils**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Reference carbon stock under native, unmanaged forest on a given soil	Adjustment factor reflecting the effect of a change from the native forest to the forest type in state j	Adjustment factor reflecting the effect of management intensity or practices on forest in state j	Adjustment factor reflecting the effect of a change in the disturbance regime to state j with respect to the native forest
Initial Land use	Land-use during reporting Year		(tonnes C ha^{-1})	(dimensionless)	(dimensionless)	(dimensionless)
			H (= C)	**I**	**J**	**K**
Forest Land	Forest Land		0			
			0			
		Sub-total				
Total						
ABBREV.			**SOC_{REF}**	**$f_{forest\ type\ j}$**	**$f_{man\ intensity\ j}$**	**$f_{dist\ regime\ j}$**

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.3 (p.3.38ff)***

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Stable soil organic carbon stock under current state j (tonnes C ha^{-1}) L = H · I · J · K **L**	Annual soil carbon stock change (tonnes C yr^{-1}) M = (L-G) · A /B **M**
0	0
0	0
0	0
	0
SOC_j	**$\Delta C_{FFMineral}$**

COUNTRY	**0**					
YEAR	**0**					
MODULE	**Forest Land**					
SUB-MODULE	**Forest Land Remaining Forest Land**					
WORKSHEET	**FL-1c2: Annual change in carbon stocks in organic soils**					
SHEET	**1 of 1**					
Land-use Category		Sub-categories for Reporting Year [1]	Area of drained organic forest soils	Emission factor for CO_2 from drained organic forest soils	CO_2 emissions from drained organic forest soils	
Initial Land use	Land-use during reporting Year		(ha)	(tonnes C ha^{-1} yr^{-1})	(tonnes C yr^{-1}) C = A · B	
			A	**B**	**C**	
Forest Land	Forest Land				0	
					0	
		Sub-total	0		0	
Total					**0**	
ABBREV.			**$A_{Drained}$**	**$EF_{Drainage}$**	**$\Delta C_{FFOrganic}$**	

[1] Note that the 'Forest Land Remaining Forest Land' sub-categories for the Reporting Year may be defined in Sheet FL-1a_1de4

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.3 (p.3.38ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**		
YEAR	**0**		
MODULE	**Forest Land**		
SUB-MODULE	**Forest Land Remaining Forest Land**		
WORKSHEET	**FL-1c3: Annual change in carbon stocks in soils (summary worksheet)**		
SHEET	**1 of 1**		
Annual change in carbon stock change in mineral soils (tonnes C yr^{-1}) **A**	CO_2 emissions from drained organic soils (tonnes C yr^{-1}) **B**	Annual change in carbon stock in soils (tonnes C yr^{-1}) C = A+B **C**	
0	0	0	
$\Delta C_{FFMineral}$	**$\Delta C_{FFOrganic}$**	**$\Delta C_{FFSoils}$**	**Abbrev.**

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.3 (p.3.38ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Forest Land Remaining Forest Land**
WORKSHEET	**FL-1d: Non-CO_2 emissions from vegetation fires**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area burnt	Mass of available fuel	Combustion efficiency or fraction of biomass combusted	CH_4 Emission factor	CH_4 Emissions from fires	CO Emission factor	CO Emissions from fires	N_2O Emission factor	N_2O Emissions from fires
Initial Land use	Land-use during reporting Year		(ha)	(kg d.m. ha^{-1})	(dimensionless)	(g /kg d.m.)	(tonnes CH_4) $E = A \cdot B \cdot C \cdot D \cdot 10^{-6}$	(g /kg d.m.)	(tonnes CO) $G = A \cdot B \cdot C \cdot F \cdot 10^{-6}$	(g /kg d.m.)	(tonnes N_2O) $I = A \cdot B \cdot C \cdot H \cdot 10^{-6}$
			A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Forest Land	Forest Land						0.00		0.00		0.00
							0.00		0.00		0.00
Total			**0**				**0.00**		**0.00**		**0.00**

[1] Land use may be further divided according to forest type and climatic zones in the country. Use the button to insert new subcategories.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.1.4 (p.3.45ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

NO_x Emission factor (g /kg d.m.) **J**	NO_x Emissions from fires (tonnes NO_x) $K = A \cdot B \cdot C \cdot J \cdot 10^{-6}$ **K**
	0.00
	0.00
	0.00

COUNTRY	**0**		
YEAR	**0**		
MODULE	**Forest Land**		
SUB-MODULE	**Land Converted to Forest Land**		
WORKSHEET	**FL-2a: Annual change in carbon stocks in living biomass (includes above and below ground biomass)**		
SHEET	**1 of 1**		
Method follows Worksheet FL-1a: Annual change in carbon stocks in living biomass (includes above and below ground biomass) in Forest Land Remaining Forest Land Growth **A**	Method follows Worksheet FL-1a: Annual change in carbon stocks in living biomass (includes above and below ground biomass) in Forest Land Remaining Forest Land Loss **B**	Annual change in carbon stocks in biomass from land-use conversion to forest land [1] (tonnes C yr^{-1}) C = A-B **C**	
		0	
$\Delta C_{LF_{Growth}}$	**$\Delta C_{LF_{Loss}}$**	**ΔC_{LFLB}**	**ABBREV.**

[1] For the meaning of columns A and B please refer to Equation 3.2.22 (p.3.51) of the IPCC Good Practice Guidance on Land Use, Land-Use Change and Forestry

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.2.2.1 (p.3.51ff)***

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Land Converted to Forest Land**
WORKSHEET	**FL-2b: Annual change in carbon stocks in dead organic matter (dead wood and litter)** [1]
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year [2]	Area of land converted to forest land through natural regeneration	Standing biomass stock in terms of carbon in naturally regenerated forest	Mortality rate in naturally regenerated forest	Annual transfer into dead wood for naturally regenerated forest area	Annual transfer out of dead wood for naturally regenerated forest area	Area of land converted into forest land through establishment of plantations	Standing biomass stock in terms of carbon in artificially regenerated forest
Initial Land use	Land-use during Reporting Year		(ha)	(tonnes d.m. ha^{-1})	(dimensionless)	(tonnes d.m. ha^{-1} yr^{-1}) D = B * C	(tonnes d.m. ha^{-1} yr^{-1})	(ha)	(tonnes d.m. ha^{-1})
			A	**B**	**C**	**D**	**E**	**F**	**G**
Cropland	Forest Land					0			
						0			
		Sub-total	0			0		0	
Grassland	Forest Land					0			
						0			
		Sub-total	0			0		0	
Wetlands	Forest Land					0			
						0			
		Sub-total	0			0		0	
Settlements	Forest Land					0			
						0			
		Sub-total	0			0		0	
Other Land	Forest Land					0			
						0			
		Sub-total	0			0		0	
Total			**0**			**0**		**0**	
ABBREV.			A_{NatR}	$B_{standing\ NatR}$	M_{NatR}	$B_{into\ NatR}$	$B_{out\ NatR}$	A_{ArtR}	$B_{standing\ ArtR}$

[1] The calculation is based on Tier 2 since Tier 1 assumes that the net change in carbon in dead wood and litter is zero.

[2] Land-use change may be further divided according to forest type or tree species, national land classification system, or ecological zones. Use the buttons to specify subcategories.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.2.2 (p.3.56ff)

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Mortality rate in artificially regenerated forest (dimensionless) **H**	Annual transfer into dead wood for artificially regenerated forest area (tonnes d.m. ha^{-1} yr^{-1}) I = G * H **I**
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
M_{ArtR}	**$B_{into\ ArtR}$**

COUNTRY	**0**
YEAR	**0**
MODULE	**1B - Land Converted to Forest Land**
SUB-MODULE	**Land Converted to Forest Land**
WORKSHEET	**FL-2b: Annual change in carbon stocks in dead organic matter (dead wood and litter)**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year	Annual transfer out of dead wood for artificially regenerated forest area (tonnes d.m. ha^{-1} yr^{-1})	Carbon fraction of dry matter (default is 0.5) (tonnes C tonne d.m.)$^{-1}$)	Annual change in carbon stocks in dead wood (tonnes C yr^{-1}) L = [A · (D-E) + F · (I-J)] · K	Annual change in litter carbon for naturally regenerated forest (tonnes C ha^{-1} yr^{-1})	Annual change in litter carbon for artificially regenerated forest (tonnes C ha^{-1} yr^{-1})	Annual change in carbon stocks in litter (tonnes C yr^{-1}) O = (A · M)+(F · N)
Initial Land use	Land-use during		J	K	L	M	N	O
Cropland	Forest Land				0			0
					0			0
		Sub-total			0			0
Grassland	Forest Land				0			0
					0			0
		Sub-total			0			0
Wetlands	Forest Land				0			0
					0			0
		Sub-total			0			0
Settlements	Forest Land				0			0
					0			0
		Sub-total			0			0
Other Land	Forest Land				0			0
					0			0
		Sub-total			0			0
Total					**0**			**0**
ABBREV.			**$B_{out\ ArtR}$**	**CF**	**ΔC_{LFDW} 1**	**ΔC_{NatR}**	**ΔC_{ArtR}**	**ΔC_{LFLT}**

[1] Symbols are provided to show the relationship among the worksheets, compilation worksheets, reporting table, and the equations in the main body of the report. Please note that symbols are provided for only one la

[2] Note that the land-use change subcategories for Lands converted to Forest Land for the Reporting Year may be defined in Sheet FL-2B_1de2

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.2.2 (p.3.56ff)

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Annual change in carbon stocks in dead organic matter (tonnes C yr^{-1}) P = L + O **P**
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
ΔC_{LFDOM}

and use category as an example.

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Land Converted to Forest Land**
WORKSHEET	**FL-2c1: Annual change in carbon stocks in mineral soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	Total afforested land derived from former cropland or grassland	Reference carbon stock under native, unmanaged forest on a given soil, SOC_{ref}	Stable soil organic carbon on previous land use, either cropland or grassland, $SOC_{Non\text{-}forest\ Land}$	Duration of the transition from $SOC_{Non\text{-}forest\ Land}$ to SOC_{ref}
Initial Land use	Land-use during reporting Year		(ha)	(tonnes C ha^{-1})	(tonnes C ha^{-1})	(yr)
			A	**B**	**C**	**D**
Cropland	Forest Land					
		Sub-total	0			
Grassland	Forest Land					
		Sub-total	0			
Wetlands	Forest Land					
		Sub-total	0			
Settlements	Forest Land					
		Sub-total	0			
Other Land	Forest Land					
		Sub-total	0			
Total			**0**			
ABBREV.			**$A_{AFF,x}$**	**SOC_{ref}**	**$SOC_{Non\text{-}forest\_land}$**	**T_{AFF}**

[1] The IPCC LULUCF Good Practice Guidance provides default values only for cropland and grassland converted into forest land.

[2] Note that the land-use change subcategories for Lands converted to Forest Land for the Reporting Year may be defined in Sheet FL-2B_1de2

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.2.2.3 (p.3.60ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Change in carbon stock in mineral soils (tonnes C yr^{-1}) E = (B-C) · A / D **E**
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LFMineral}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Land Converted to Forest Land**
WORKSHEET	**FL-2c2: Annual change in carbon stocks in organic soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area of drained organic soils in land converted to forest land (ha)	Emission factor for CO_2 from drained organic forest soils (tonnes C ha^{-1} yr^{-1})	CO_2 emissions from drained organic soils (tonnes C yr^{-1}) C = A · B
Initial Land use	Land-use during reporting Year		**A**	**B**	**C**
Cropland	Forest Land				0
					0
		Sub-total	0		0
Grassland	Forest Land				0
					0
		Sub-total	0		0
Wetlands	Forest Land				0
					0
		Sub-total	0		0
Settlements	Forest Land				0
					0
		Sub-total	0		0
Other Land	Forest Land				0
					0
		Sub-total	0		0
Total			**0**		**0**
ABBREV.			**$A_{Drained}$**	**$EF_{Drainage}$**	**$\Delta C_{LFOrganic}$**

[1] Note that the land-use change subcategories for Lands converted to Forest Land for the Reporting Year may be defined in Sheet FL-2B_1de2

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.2.3 (p.3.60ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Land Converted to Forest Land**
WORKSHEET	**FL-2c3: Annual change in carbon stocks in soils (summary worksheet)**
SHEET	**1 of 1**

Annual soil carbon stock change in mineral soils (tonnes C yr^{-1})	CO_2 emissions from drained organic soils (tonnes C yr^{-1})	Annual change in carbon stocks in soils (tonnes C yr^{-1}) C = A+B
A	**B**	**C**
0	0	0
$\Delta C_{LFMineral}$	**$\Delta C_{LFOrganic}$**	**$\Delta C_{LFSoils}$**

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.2.3 (p.3.60ff)

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Forest Land**
SUB-MODULE	**Land Converted to Forest Land**
WORKSHEET	**FL-2d: Non-CO_2 emissions from vegetation fires**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year	Area burnt	Mass of available fuel	Combustion efficiency or fraction of biomass combusted	CH_4 Emission factor	CH_4 Emissions from fires	CO Emission factor	CO Emissions from fires	N_2O Emission factor	N_2O Emissions from fires
Initial Land use	Land-use during reporting Year		(ha)	(kg d.m. ha^{-1})	(dimensionless)	(g /kg d.m.)	(tonnes CH_4) $E = A \cdot B \cdot C \cdot D \cdot 10^{-6}$	(g /kg d.m.)	(tonnes CO) $G = A \cdot B \cdot C \cdot F \cdot 10^{-6}$	(g /kg d.m.)	(tonnes N_2O) $I = A \cdot B \cdot C \cdot H \cdot 10^{-6}$
			A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Cropland	Forest Land						0.00		0.00		0.00
							0.00		0.00		0.00
		Sub-Total	0.00				0.00		0.00		0.00
Grassland	Forest Land						0.00		0.00		0.00
							0.00		0.00		0.00
		Sub-Total	0.00				0.00		0.00		0.00
Total			**0.00**				**0.00**		**0.00**		**0.00**

[1] Land use changes may be further divided. Use the buttons to insert new subcategories.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.2.2.4 (p.3.65ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

NO_x Emission factor (g /kg d.m.) **J**	NO_x Emissions from fires (tonnes NO_x) $K = A \cdot B \cdot C \cdot J \cdot 10^{-6}$ **K**
	0.00
	0.00
	0.00
	0.00
	0.00
	0.00
	0.00

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Cropland Remaining Cropland**
WORKSHEET	**CL-1a: Annual change in carbon stocks in living biomass** [1]
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	Annual area of cropland with perennial woody biomass (ha)	Annual growth rate of perennial woody biomass (tonnes C ha^{-1} yr^{-1})	Annual carbon stock in biomass removed (removal or harvest) (tonnes C ha^{-1} yr^{-1})
Initial Land use	Land-use during		**A**	**B**	**C**
Cropland	Cropland				
		Sub-total	0		
Total			**0**		
ABBREV.			**A**	**G**	**L**

[1] The change in biomass is only estimated for perennial woody crops. For annual crops, increase in biomass stocks in a single year is assumed equal to biomass losses from harv accumulation of biomass carbon stocks.

[2] Land use may be further divided according to type of perennial woody vegetation and climate zones.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.1.1 (p.3.70ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Annual change in carbon stocks in biomass (tonnes C yr^{-1}) D = A * (B-C) **D**
0
0
0
0
ΔC_{CCLB}

est and mortality in that same year – thus there is no net

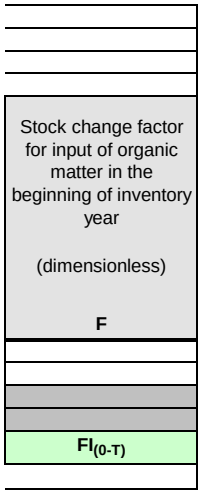
COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Cropland Remaining Cropland**
WORKSHEET	**CL-1c1: Annual change in carbon stocks in mineral soils**
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year	Land area of each parcel [1]	Inventory time period	Reference carbon stock	Stock change factor for land use or land-use change type in the beginning of inventory year	Stock change factor for management regime in the beginning of inventory year
Initial Land use	Land-use during reporting Year		(ha)	(default is 20 yrs)	(tonnes C ha^{-1})	(dimensionless)	(dimensionless)
			A	**B**	**C**	**D**	**E**
Cropland	Cropland						
		Sub-total	0				
Total			**0**				
ABBREV.			**A**	**T**	**SOC_{ref}**	**$FLU_{(0-T)}$**	**$FMG_{(0-T)}$**

[1] Major cropland systems in your country should be covered.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.3.1.2 (p.3.74ff)***

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.


Stock change factor for input of organic matter in the beginning of inventory year
(dimensionless)
F
FI(0-T)

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Cropland Remaining Cropland**
WORKSHEET	**CL-1c1: Annual change in carbon stocks in mineral soils**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year	Soil organic carbon stock at T years (beginning of inventory year)	Stock change factor for land use or land-use change type in current inventory year	Stock change factor for management regime in current inventory year	Stock change factor for input of organic matter in current inventory year	Soil organic carbon stock in current inventory year
Initial Land use	Land-use during reporting Year		(tonnes C ha^{-1})	(dimensionless)	(dimensionless)	(dimensionless)	(tonnes C ha^{-1})
			G = C * D * E * F				K = C * H * I * J
			G	**H**	**I**	**J**	**K**
Cropland	Cropland		0				0
			0				0
		Sub-total	0				0
Total							
ABBREV.			**$SOC_{(0-T)}$**	**$FLU_{(0)}$**	**$FMG_{(0)}$**	**$FI_{(0)}$**	**SOC_0**

[1] Note that the land-use subcategories for Cropland Remaining Cropland for the Reporting Year may be defined in Sheet CL-1c1_1de2

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.1.2 (p.3.74ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

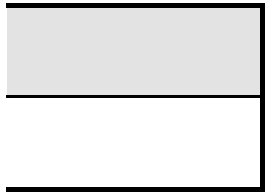
Annual change in carbon stocks in mineral soils (tonnes C yr^{-1}) L = [(K-G) * A] / B
L
0
0
0
0
$\Delta C_{CCMineral}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Cropland Remaining Cropland**
WORKSHEET	**CL-1c2: Annual change in carbon stocks in organic soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year	Land area of organic soils in climate type c	Emission factor for climate type c	CO_2 emissions from cultivated organic soils
Initial Land use	Land-use during reporting Year		(ha)	(tonnes C ha^{-1} yr^{-1})	(tonnes C yr^{-1}) C = A * B
			A	**B**	**C**
Cropland	Cropland				0
					0
		Sub-total	0		0
Total			**0**		**0**
ABBREV.			**A**	**EF**	**$\Delta C_{CCOrganic}$**

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.3.1.2 (p.3.74ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.



COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Cropland Remaining Cropland**
WORKSHEET	**CL-1c3: Carbon emissions from agricultural lime application**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting	Type of lime	Total Annual amount of lime applied	Emission Factor (carbonate carbon contents of the materials)	Annual CO_2 emissions from agricultural lime application
Initial Land use	Land-use during			(tonnes lime yr^{-1})	(tonnes C/tonne lime)	(tonnes C yr^{-1}) D = B * C
			A	**B**	**C**	D
Cropland	Cropland					0
						0
		Sub-total		0		0
Total						**0**
ABBREV.			**type**	**Amount**	**EF**	**$\Delta C_{CC\ Liming}$**

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.1.2 (p.3.74ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Cropland Remaining Cropland**
WORKSHEET	**CL-1c4: Annual soil carbon stock change in croplands**
SHEET	**1 of 1**

Annual change in carbon stock change in mineral soils (tonnes C yr^{-1}) A	CO_2 emissions from cultivated organic soils (tonnes C yr^{-1}) **B**	CO_2 Emissions from liming (tonnes C yr^{-1}) **C**	Annual change in carbon stocks in soils (tonnes C yr^{-1}) C = A - B - C **D**
0	0	0	0
$\Delta C_{CCMineral}$	**$\Delta C_{CCOrganic}$**	**$\Delta C_{CCLiming}$**	**$\Delta C_{CCSoils}$**

ABBREV.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.1.2 (p.3.74ff)

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2a: Annual change in carbon stocks in living biomass**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Annual area of land converted to cropland	Carbon stocks in biomass immediately after conversion to cropland	Carbon stocks in biomass immediately before conversion to cropland	Carbon stock change per area for that type of conversion when land is converted to cropland	Change in carbon stock from one year of cropland growth
Initial Land use	Land-use during reporting Year		(ha yr^{-1})	(tonnes C ha^{-1})	(tonnes C ha^{-1})	(tonnes C ha^{-1}) D = B - C	(tonnes C ha^{-1})
			A	**B**	**C**	**D**	**E**
Forest Land	Cropland					0	
						0	
		Sub-total	0				
Grassland	Cropland					0	
						0	
		Sub-total	0				
Wetlands	Cropland					0	
						0	
		Sub-total	0				
Settlements	Cropland					0	
						0	
		Sub-total	0				
Other Land	Cropland					0	
						0	
		Sub-total	0				
Total			**0**				
ABBREV.			**$A_{Conversion}$**	**C_{After}**	**C_{Before}**	**$L_{Conversion}$**	**ΔC_{Growth}**

[1] Land use may be further divided according to type of perennial woody vegetation and climate zones.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY,** ***CHAPTER 3, SECTION 3.3.2.1 (p.3.83ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Annual change in carbon stocks in living biomass in land converted to cropland (tonnes C yr^{-1}) F = A * (D + E)
F
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
ΔCLCLB

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2c1: Annual change in carbon stocks in mineral soils**
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year	Area of land converted to a cropland system [1]	Inventory time period	Reference carbon stock	Stock change factor for land use or land-use change type in the initial year (pre-conversion)	Stock change factor for management regime in the initial year (pre-conversion)
Initial Land use	Land-use during reporting Year		(ha)	(default is 20 yrs)	(tonnes C ha^{-1})	(dimensionless)	(dimensionless)
			A	**B**	**C**	**D**	**E**
Forest Land	Cropland						
		Sub-total	0				
Grassland	Cropland						
		Sub-total	0				
Wetlands	Cropland						
		Sub-total	0				
Settlements	Cropland						
		Sub-total	0				
Other Land	Cropland						
		Sub-total	0				
Total			**0**				
ABBREV.			**A**	**T**	**SOC_{ref}**	**$FLU_{(0-T)}$**	**$FMG_{(0-T)}$**

[1] Major cropland systems in your country should be covered.

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE* IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.2.2 (p.3.89ff)

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Stock change factor for input of organic matter in the initial year (pre-conversion)

(dimensionless)

F

$FI_{(0-T)}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2c1: Annual change in carbon stocks in mineral soils**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Soil organic carbon stock in the initial year (pre-conversion)	Stock change factor for land use or land-use change type in current	Stock change factor for management regime in current inventory year	Stock change factor for input of organic matter in current inventory year	Soil organic carbon stock in current inventory year
Initial Land use	Land-use during		(tonnes C ha^{-1}) G = C * D * E * F	(dimensionless)	(dimensionless)	(dimensionless)	(tonnes C ha^{-1}) K = C * H * I * J
			G	**H**	**I**	**J**	**K**
Forest Land	Cropland		0				0
			0				0
		Sub-total	0				0
Grassland	Cropland		0				0
			0				0
		Sub-total	0				0
Wetlands	Cropland		0				0
			0				0
		Sub-total	0				0
Settlements	Cropland		0				0
			0				0
		Sub-total	0				0
Other Land	Cropland		0				0
			0				0
		Sub-total	0				0
Total			**0**				**0**
ABBREV.			**$SOC_{(0-T)}$**	**$FLU_{(0)}$**	**$FMG_{(0)}$**	**$FI_{(0)}$**	**SOC_0**

[1] Note that land use subcategories for the Reporting Year may be defined in Sheet CL-2c1_1de2

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY,** ***CHAPTER 3, SECTION 3.3.2.2 (p.3.89ff)***

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Annual change in carbon stocks in mineral soils (tonnes C yr^{-1}) L = [(K-G) * A] / B **L**
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LCMineral}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2c2: Annual change in carbon stocks in organic soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year	Land area of organic soils in climate type c which are converted to cropland	Emission factor for climate type c	CO_2 emissions from cultivated organic soils
Initial Land use	Land-use during reporting Year		(ha)	(tonnes C ha^{-1} yr^{-1})	(tonnes C yr^{-1}) C = A * B
			A	**B**	**C**
Forest Land	Cropland				0
					0
		Sub-total	0		0
Grassland	Cropland				0
					0
		Sub-total	0		0
Wetlands	Cropland				0
					0
		Sub-total	0		0
Settlements	Cropland				0
					0
		Sub-total	0		0
Other Land	Cropland				0
					0
		Sub-total	0		0
Total			**0**		**0**
ABBREV.			**A**	**EF**	**$\Delta C_{LCOrganic}$**

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Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2c3: Carbon emissions from agricultural lime application**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year	Type of lime	Total Annual amount of lime applied	Emission Factor (carbonate carbon contents of the materials)	Annual CO_2 emissions from agricultural lime application
Initial Land use	Land-use during reporting Year			(tonnes lime yr^{-1})	(tonnes C/tonne lime)	(tonnes C yr^{-1}) D = B * C
			A	**B**	**C**	**D**
Forest Land	Cropland					0
						0
		Sub-total		0		0
Grassland	Cropland					0
						0
		Sub-total		0		0
Wetlands	Cropland					0
						0
		Sub-total		0		0
Settlements	Cropland					0
						0
		Sub-total		0		0
Other Land	Cropland					0
						0
		Sub-total		0		0
Total				**0**		**0**
ABBREV.			**type**	**Amount**	**EF**	**$\Delta C_{LC_{Liming}}$**

FOR GUIDANCE ON HOW TO USE THIS WORKSHEET PLEASE CONSULT THE **IPCC GOOD PRACTICE GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY,** ***CHAPTER 3, SECTION 3.3.2.2 (p.3.89ff)***

Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2c4: Annual soil carbon stock change in croplands**
SHEET	**1 of 1**

Annual soil carbon stock change in mineral soils (tonnes C yr^{-1})	Carbon emissions from cultivated organic soils (tonnes C yr^{-1})	CO_2 Emissions from liming (tonnes C yr^{-1})	Annual change in carbon stocks in soils (tonnes C yr^{-1}) D = A - B - C
A	**B**	**C**	**D**
0	0	0	0
ΔCLCMineral	**ΔCLCOrganic**	**ΔCLCLiming**	**ΔCLCSoil**

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Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Cropland**
SUB-MODULE	**Land Converted to Cropland**
WORKSHEET	**CL-2d: Annual emissions of N_2O from mineral soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	IPCC default emission factor used to calculate emissions from agricultural land caused by added N, whether in the form of mineral fertilisers, manures, or crop residues	N released annually by net soil organic matter mineralisation as a result of the disturbance	Additional emissions arising from the land-use change [1]	N_2O emissions as a result of the disturbance associated with land-use conversion of forest, grassland or other land to cropland
Initial Land use	Land-use during reporting Year		(kg N_2O-N/ kg N)	(See Note 1 below) (kg N yr^{-1})	(kg N_2O-N yr^{-1}) C = A * B	(kg N_2O-N yr-1) D = C
			A	**B**	**C**	**D**
Forest Land	Cropland					0
						0
		Sub-total		0	0	0
Grassland	Cropland					0
						0
		Sub-total		0	0	0
Wetlands	Cropland					0
						0
		Sub-total		0	0	0
Settlements	Cropland					0
						0
		Sub-total		0	0	0
Other Land	Cropland					0
						0
		Sub-total		0	0	0
Total				**0**	**0**	**0**
ABBREV.			**EF [1]**	**$N_{net\text{-}min}$**	**$N_2O_{net\text{-}min\text{-}N}$**	**$N_2O\ Emission_{LC}$**

[1] Column B = value of Column A in Worksheet CL-2c4 divided by the C:N ratio (see Equation 3.3.15). The default value for the C:N ratio is 15.

[2] Note that land use subcategories for the Reporting Year may be defined in Sheet CL-2c1_1de2

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Documentation box:

Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1a: Annual change in carbon stocks in living biomass** [1]
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year [2]	Area of grassland covered with perennial woody biomass	Average annual biomass growth of perennial woody biomass	Average annual biomass loss of perennial woody biomass	Change in above- and belowground living perennial woody biomass	Area of grassland covered with grasses
Initial Land use	Land-use during reporting Year		(ha)	(tonnes d.m. ha^{-1} yr^{-1})	(tonnes d.m. ha^{-1} yr^{-1})	(tonnes d.m. yr^{-1}) D = A * (B-C)	(ha)
			A	**B**	**C**	**D**	**E**
Grassland	Grassland					0	
						0	
		Sub-total	0			0	0
Total						**0**	
ABBREV.			**$A_{perennial}$**	**$G_{perennial}$**	**$L_{perennial}$**	**$\Delta B_{perennial}$**	**$A_{grasses}$**

[1] The worksheet is based on Tier 2 method. The Tier 1 assumption is no change in living biomass carbon stocks.

[2] Land-use may be further divided according to grassland type and climate zone.

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Documentation box:
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COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1a: Annual change in carbon stocks in living biomass**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Average annual biomass growth of grasses	Average annual biomass loss of grasses
Initial Land use	Land-use during reporting Year		(tonnes d.m. ha^{-1} yr^{-1})	(tonnes d.m. ha^{-1} yr^{-1})
			F	**G**
Grassland	Grassland			
		Sub-total		
Total				
ABBREV.			**$G_{grasses}$**	**$L_{grasses}$**

[1] Note that land-use subcategories for the Reporting Year may be defined in Sheet GL-1a_1de2

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ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.3.1 (p.3.106ff)*

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Change in belowground biomass of grasses (tonnes d.m. yr^{-1}) H = E* (F-G) **H**	Carbon fraction of dry matter (default is 0.5) (tonnes C tonne $d.m.^{-1}$) **I**	Change in carbon stocks in living biomass (tonnes C yr^{-1}) J = (D+H) * I **J**
0		0
0		0
0		0
0		**0**
$\Delta B_{grasses}$	**CF**	**ΔC_{GGLB}**

ACTICE GUIDANCE

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1c1: Annual change in carbon stocks in mineral soils**
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Land area of each parcel	Inventory time period	Reference carbon stock
Initial Land use	Land-use during reporting Year		(ha)	(default is 20 yr)	(tonnes C ha^{-1})
			A	**B**	**C**
Grassland	Grassland				
		Sub-total	0		
Total					
ABBREV.			**A**	**T**	**SOC_{ref}**

[1] Land-use may be further divided according to grassland type and climate zone. Use the button to insert sub-ca

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Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Stock change factor for land use or land-use change type in the beginning of inventory year (dimensionless) **D**	Stock change factor for management regime in the beginning of inventory year (dimensionless) **E**	Stock change factor for input of organic matter in the beginning of inventory year (dimensionless) **F**
$F_{LU(0-T)}$	**$F_{MG(0-T)}$**	**$F_{I(0-T)}$**

ategories.

COUNTRY	**0**			
YEAR	**0**			
MODULE	**Grassland**			
SUB-MODULE	**Grassland Remaining Grassland**			
WORKSHEET	**GL-1c1: Annual change in carbon stocks in mineral soils**			
SHEET	**2 of 2**			

Land-use Category		Sub-categories for Reporting Year [1]	Soil organic carbon stock at T years (beginning of inventory year) (tonnes C ha^{-1}) G = C * D * E * F	Stock change factor for land use or land-use change type in current inventory year (dimensionless)
Initial Land use	Land-use during reporting Year		**G**	**H**
Grassland	Grassland		0	
			0	
		Sub-total	0	
Total				
ABBREV.			**SOC(0-T)**	**FLU(0)**

[1] Note that land-use subcategories for the Reporting Year may be defined in Sheet GL-1c1_1de2

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Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Stock change factor for management regime in current inventory year (dimensionless) **I**	Stock change factor for input of organic matter in current inventory year (dimensionless) **J**	Soil organic carbon stock in current inventory year (tonnes C ha^{-1}) K = C * H * I * J **K**	Annual change in carbon stocks in mineral soils (tonnes C yr^{-1}) L = [(K-G) * A] / B **L**
		0	0
		0	0
		0	0
			0
$F_{MG(0)}$	**$F_{I(0)}$**	**SOC_0**	**$\Delta C_{GGMineral}$**

E GUIDANCE ON

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1c2: Annual change in carbon stocks in cultivated organic soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Land area of organic soils in climate type c	Emission factor for climate type c
Initial Land use	Land-use during reporting Year		(ha)	(tonnes C ha^{-1} yr^{-1})
			A	**B**
Grassland	Grassland			
		Sub-total	0	
Total				
ABBREV.			**A**	**EF**

[1] Land-use may be further divided according to grassland type and climate zone. Use the button to ir

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LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.3.3.2 (p.3.111ff)*

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation b

CO_2 emissions from cultivated organic soils (tonnes C yr^{-1}) C = A * B **C**
0
0
0
0
$\Delta C_{GGOrganic}$

nsert sub-categories.

PRACTICE GUIDANCE ON

box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1c3: Annual carbon emissions from agricultural lime application**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Type of lime	Total Annual amount of lime applied
Initial Land use	Land-use during reporting Year			(tonnes lime yr^{-1})
			A	**B**
Grassland	Grassland			
		Sub-total		0
Total				
ABBREV.			**type**	**Amount**

[1] Land-use may be further divided according to grassland type and climate zone. Use the button to inse

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LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.3.3.2 (p.3.111ff)*

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Emission Factor (carbonate carbon contents of the materials) (tonnes C/tonne lime) **C**	Annual carbon emissions from agricultural lime application (tonnes C yr^{-1}) D = B * C **D**
	0
	0
	0
	0
EF	**ΔC GGLiming**

rt sub-categories.

ACTICE GUIDANCE ON

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1c4: Annual soil carbon stock change in grassland**
SHEET	**1 of 1**

Annual soil carbon stock change in mineral soils (tonnes C yr^{-1})	CO_2 emissions from cultivated organic soils (tonnes C yr^{-1})	Annual carbon emissions from agricultural lime application (tonnes C yr^{-1})
A	**B**	**C**
0	0	0
ΔCGGMineral	**ΔC GGOrganic**	**ΔC GGLiming**

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LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.3.3.2 (p.3.111ff)*

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation

Annual change in carbon stocks in soils (tonnes C yr^{-1}) C = A - B - C **D**
0
$\Delta C_{GGSoils}$

PRACTICE GUIDANCE ON LAND USE,

box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Grassland Remaining Grassland**
WORKSHEET	**GL-1d: Non-CO_2 emissions from vegetation fires**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area of grassland burned	Mass of available fuel
Initial Land use	Land-use during reporting Year		(ha)	(kg d.m. ha^{-1})
			A	**B**
Grassland	Grassland			
		Sub-total		
Total			**0.00**	

[1] Land-use may be further divided according to grassland type and climate zone. Use the button to in

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GUIDANCE ON LAND USE, LAND-USE CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.3.*

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation b

Combustion efficiency or fraction of biomass combusted (dimensionless) **C**	CH_4 Emission factor (g /kg d.m.) **D**	CH_4 Emissions from fires (tonnes CH_4) $E = A \cdot B \cdot C \cdot D \cdot 10^{-6}$ **E**	CO Emission factor (g /kg d.m.) **F**
		0.00	
		0.00	
		0.00	

ısert sub-categories.

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3.3 (p.3.120ff)

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CO Emissions from fires (tonnes CO) $G = A * B * C * F * 10^{-6}$ **G**	N_2O Emission factor (g /kg d.m.) **H**	N_2O Emissions from fires tonnes (N_2O) $I = A * B * C * H * 10^{-6}$ **I**	NO_x Emission factor (g /kg d.m.) **J**
0.00		0.00	
0.00		0.00	
0.00		**0.00**	

NO_x Emissions from fires (tonnes NO_x) $K = A * B * C * J * 10^{-6}$ **K**
0.00
0.00
0.00

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Land Converted to Grassland**
WORKSHEET	**GL-2a: Annual change in carbon stocks in living and dead biomass**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area of land converted to grassland from some initial use	Carbon stocks in biomass immediately after conversion to grassland	Carbon stocks in biomass immediately before conversion to grassland
Initial Land use	Land-use during reporting Year		(ha yr^{-1})	(tonnes C ha^{-1})	(tonnes C ha^{-1})
			A	**B**	**C**
Forest Land	Grassland				
		Sub-total	0		
Cropland	Grassland				
		Sub-total	0		
Wetlands	Grassland				
		Sub-total	0		
Settlements	Grassland				
		Sub-total	0		
Other Land	Grassland				
		Sub-total	0		
Total			**0**		
ABBREV.			**$A_{Conversion}$**	**C_{After}**	**C_{Before}**

[1] Land-use change may be further divided according to grassland type and climate zone. Use the buttons to ins

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Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Carbon stock change per area for that type of conversion (tonnes C ha^{-1}) D = B-C **D**	Carbon stocks from one year of growth of grassland vegetation after conversion (tonnes C ha^{-1}) **E**	Annual change in carbon stocks in living biomass (tonnes C yr^{-1}) F = A * (D+E) **F**
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		0
0		**0**
$L_{Conversion}$	**ΔC_{Growth}**	**ΔC_{LGLB}**

ert sub-categories.

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Land Converted to Grassland**
WORKSHEET	**GL-2c1: Annual change in carbon stocks in mineral soils**
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Area of land converted to grassland from some initial use	Time period for the conversion	Reference carbon stock
Initial Land use	Land-use during reporting Year		(ha)	(default is 20 yrs)	(tonnes C ha^{-1})
			A	**B**	**C**
Forest Land	Grassland				
		Sub-total	0		
Cropland	Grassland				
		Sub-total	0		
Wetlands	Grassland				
		Sub-total	0		
Settlements	Grassland				
		Sub-total	0		
Other Land	Grassland				
		Sub-total	0		
Total			**0**		
ABBREV.			**A**	**T**	**SOC_{ref}**

[1] Land-use change may be further divided according to grassland type and climate zone. Use the butto

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Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Stock change factor for land use or land-use change type in the initial year (pre-conversion) (dimensionless) **D**	Stock change factor for management regime in the initial year (pre-conversion) (dimensionless) **E**	Stock change factor for input of organic matter in the initial year (pre-conversion) (dimensionless) **F**
$FLU_{(0-T)}$	**$FMG_{(0-T)}$**	**$FI_{(0-T)}$**

ons to insert sub-categories.

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Land Converted to Grassland**
WORKSHEET	**GL-2c1: Annual change in carbon stocks in mineral soils**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Soil organic carbon stock in the initial year (pre-conversion)	Stock change factor for land use or land-use change type in current inventory year
Initial Land use	Land-use during reporting Year		(tonnes C ha^{-1}) G = C * D * E * F	(dimensionless)
			G	**H**
Forest Land	Grassland		0	
			0	
		Sub-total	0	
Cropland	Grassland		0	
			0	
		Sub-total	0	
Wetlands	Grassland		0	
			0	
		Sub-total	0	
Settlements	Grassland		0	
			0	
		Sub-total	0	
Other Land	Grassland		0	
			0	
		Sub-total	0	
Total			**0**	
ABBREV.			**$SOC_{(0-T)}$**	**$F_{LU(0)}$**

[1] Note that land-use subcategories for the Reporting Year may be defined in Sheet GL-2c1_2de2

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USE CHANGE AND FORESTRY, ***CHAPTER 3, SECTION 3.4.2.2 (p.3.126ff)***

Documentation box:
Parties are encouraged to provide relevant information used in the calculation and on data sources in this documentation box.

Stock change factor for management regime in current inventory year (dimensionless) **I**	Stock change factor for input of organic matter in current inventory year (dimensionless) **J**	Soil organic carbon stock in current inventory year (tonnes C ha^{-1}) K = C * H * I * J **K**
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
$F_{MG(0)}$	**$F_{I(0)}$**	**SOC_0**

UIDANCE ON LAND USE, LAND-

Annual change in carbon stocks in mineral soils (tonnes C yr^{-1}) L = [(K-G) *A] / B **L**
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LGMineral}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-	**Land Converted to Grassland**
WORKSHEET	**GL-2c2: Annual change in carbon stocks in cultivated organic soils**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Land area of organic soils in climate type c which are converted to grassland	Emission factor for climate type c
Initial Land use	Land-use during reporting Year		(ha)	(tonnes C ha^{-1} yr^{-1})
			A	**B**
Forest Land	Grassland			
		Sub-total	0	
Cropland	Grassland			
		Sub-total	0	
Wetlands	Grassland			
		Sub-total	0	
Settlements	Grassland			
		Sub-total	0	
Other Land	Grassland			
		Sub-total	0	
Total			**0**	
ABBREV.			**A**	**EF**

[1] Land-use change may be further divided according to grassland type and climate zone. Use the buttons

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CO_2 emissions from cultivated organic soils (tonnes C yr^{-1}) C = A * B **C**
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LG_{Organic}}$

s to insert sub-categories.

CTICE GUIDANCE ON

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Land Converted to Grassland**
WORKSHEET	**GL-2c3: Annual carbon emissions from agricultural lime application**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Type of lime	Total annual amount of lime applied
Initial Land use	Land-use during reporting Year			(tonnes lime yr^{-1})
			A	**B**
Forest Land	Grassland			
		Sub-total		0
Cropland	Grassland			
		Sub-total		0
Wetlands	Grassland			
		Sub-total		0
Settlements	Grassland			
		Sub-total		0
Other Land	Grassland			
		Sub-total		0
Total				**0**
ABBREV.			**type**	**Amount**

[1] Land-use change may be further divided according to grassland type and climate zone. Use

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ON LAND USE, LAND-USE CHANGE AND FORESTRY, *CHAPTER 3, SECTION 3.4.2.2 (p*

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Emission Factor (carbonate carbon contents of the materials) (tonnes C/tonnes lime) **C**	Annual carbon emissions from agricultural lime application (tonnes C yr^{-1}) D = B * C **D**
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
EF	**$\Delta C_{LG_{Liming}}$**

e the buttons to insert sub-categories.

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.3.126ff)

ntation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Land Converted to Grassland**
WORKSHEET	**GL-2c4: Annual soil carbon stock ch**
SHEET	**1 of 1**

Annual change in carbon stocks in mineral soils (tonnes C yr^{-1})	CO_2 emissions from cultivated organic soils (tonnes C yr^{-1})
A	**B**
0	0
$\Delta C_{LG_{Mineral}}$	**$\Delta C_{LG_{Organic}}$**

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CHAPTER 3, SECTION 3.4.2.2 (p.3.126ff)

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hange in grassland	
Annual carbon emissions from agricultural lime application (tonnes C yr^{-1}) **C**	Annual change in carbon stocks in soils (tonnes C yr^{-1}) C = A - B - C **D**
0	0
$\Delta C_{LG_{Liming}}$	**$\Delta C_{LG_{Soils}}$**

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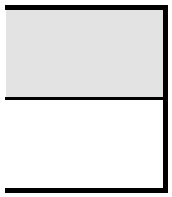
es in this documentation box.



COUNTRY	**0**
YEAR	**0**
MODULE	**Grassland**
SUB-MODULE	**Land Converted to Grassland**
WORKSHEET	**GL-2d: Non-CO_2 emissions from vegetation fires**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year	Area of grassland burned	Biomass of available fuel present
Initial Land use	Land-use during reporting Year		(ha)	(kg d.m. ha^{-1})
			A	**B**
Forest Land	Grassland			
		Sub-Total	0.00	
Cropland	Grassland			
		Sub-Total	0.00	
Total			**0.00**	

[1] Land-use change may be further divided according to grassland type and climate zone. Use the butto

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Combustion efficiency or fraction of biomass combusted (dimension-less) **C**	CH_4 Emission factor (g /kg d.m.) **D**	CH_4 Emissions from fires (tonnes CH_4) $E = A \cdot B \cdot C \cdot D \cdot 10^{-6}$ **E**	CO Emission factor (g /kg d.m.) **F**	CO Emissions from fires (tonnes CO) $G = A * B * C * F * 10^{-6}$ **G**
		0.00		0.00
		0.00		0.00
		0.00		0.00
		0.00		0.00
		0.00		0.00
		0.00		0.00
		0.00		**0.00**

ons to insert sub-categories.

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N_2O Emission factor (g /kg d.m.) **H**	N_2O Emissions from fires tonnes (N_2O) $I = A * B * C * H * 10^{-6}$ **I**	NO_x Emission factor (g /kg d.m.) **J**	NO_x Emissions from fires (tonnes NO_x) $K = A * B * C * J * 10^{-6}$ **K**
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		**0.00**

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Wetlands Remaining Wetlands (Organic soils managed for peat ext**
WORKSHEET	**WL-1c: Annual carbon stock change in soil [1]**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	Area of nutrient **rich** organic soils managed for peat extraction, including abandoned areas in which drainage is still present
Initial Land use	Land-use during reporting Year		(ha)
			A
Wetlands	Wetlands		
		Sub-total	0
Total			**0**
ABBREV.			**$A_{peat\ N\text{-}rich}$**

[1] CO_2 emissions occurring from peat stockpiles and restoration operations are not well unde
(essentially emissions due to enhanced oxidation at the production fields) are given

[2] Land use may be further divided. Use the button to insert sub-categories.

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traction)		

Emission factor for CO_2 from nutrient rich organic soils managed for peat extraction (tonnes C ha^{-1} yr^{-1}) **B**	Area of nutrient **poor** organic soils managed for peat extraction, including abandoned areas in which drainage is still present (ha) **C**	Emission factor for CO_2 from nutrient poor organic soils managed for peat extraction (tonnes C ha^{-1} yr^{-1}) **D**
	0	
	0	
$EF_{peat\ N\text{-}rich}$	**$A_{peat\ N\text{-}poor}$**	**$EFpea_{t\ N\text{-}poor}$**

erstood. Hence, only method and data for estimating the change in soil carbon

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ntation box.

CO_2 emissions from organic soils managed for peat extraction (tonnes C yr^{-1}) E = (A * B) + (C * D) **E**
0
0
0
0
$\Delta C_{WW\ peatSoils} = \Delta C_{WW\ peatSoils\ extraction}$

stock associated with peat extraction

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Wetlands Remaining Wetlands (Organic soils managed for pea**
WORKSHEET	**WL-1d1: N_2O emissions from peatland drainage**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area of nutrient-**rich** drained organic soils
Initial Land use	Land-use during reporting Year		(ha)
			A
Wetlands	Wetlands		
		Sub-total	0
Total			**0**
ABBREV.			**A peat N-rich**

[1] Land use may be further divided. Use the button to insert sub-categories.

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t extraction)	

Emission factor for N_2O for nutrient rich organic soils (kg N_2O-N ha^{-1} yr^{-1}) **B**	Area of nutrient-**poor** drained organic soils (ha) **C**	Emission factor for N_2O for nutrient poor organic soils (kg N_2O-N ha^{-1} yr^{-1}) **D**
	0	
	0	
$EF_{2\ peat\ N\text{-}rich}$	**$A_{\ peat\ N\text{-}poor}$**	**$EF_{2\ peat\ N\text{-}poor}$**

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ntation box.

N_2O emissions from drained organic soils ($Gg\ N_2O\ yr^{-1}$) $E = [(A * B) + (C * D)] * 44/28 * 10^{-6}$
E
0
0
0
0
N_2O $Emissions_{WW\ peat}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Wetlands Remaining Wetlands (Flooded Land Remaining Floo**
WORKSHEET	**WL-1d2: CO_2 Emissions from flooded lands[1]**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	Total flooded surface area, including flooded land, flooded lake and flooded river surface area
Initial Land use	Land-use during reporting Year		(ha)
			A
Wetlands	Wetlands		
		Sub-total	0
Total			
ABBREV.			**$A_{flood, total surface}$**

[1] The default assumption is that the CO_2 emission would be limited to approximately 1

[2] Land use may be further divided. Use the button to insert sub-categories.

[3] Usually 365 days for annual inventory estimates.

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oded Land)		
Flooding period (days per year)[3] **B**	Average daily diffusive emissions (Gg CO_2 ha^{-1} day^{-1}) **C**	Total CO_2 emissions from flooded lands (Gg CO_2 yr^{-1}) D = A * B * C **D**
		0
		0
		0
		0
P	**$E(CO_2)_{diff}$**	**CO_2 Emissions $_{WW\ flood}$**

.0 years and land flooded > 10 years ago need not be included.

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s documentation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Wetlands Remaining Wetlands (Flooded Land Remain**
WORKSHEET	**WL-1d3: CH_4 emissions from flooded lands**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Total flooded surface area, including flooded land, flooded lake and flooded river surface area
Initial Land use	Land-use during reporting Year		(ha)
			A
Wetlands	Wetlands		
		Sub-total	0
Total			
ABBREV.			**$A_{flood, total surface}$**

[1] Land use may be further divided. Use the button to insert sub-categories.

[2] Usually 365 days for annual inventory estimates.

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CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.5.1 (p.3.135ff)*

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ing Flooded Land)	
Flooding period (days per year) [2] **B**	Average daily diffusive emissions (Gg CH_4 ha^{-1} day^{-1}) **C**
P	**$E(CH_4)_{diff}$**

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es in this documentation box.

Average daily bubble emissions (Gg CH_4 ha^{-1} day^{-1}) **D**	Total CH_4 emissions from flooded lands (Gg CH_4 yr^{-1}) E = A * B * (C + D) **E**
	0
	0
	0
	0
$E(CH_4)_{bubble}$	**CH_4 Emissions WW flood**

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Wetlands Remaining Wetlands (Flooded Land Remaining Flooded Land)**
WORKSHEET	**WL-1d4: N_2O emissions from flooded lands**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Total flooded surface area, including flooded land, flooded lake and flooded river surface area (ha)	Flooding period (days per year) [2]
Initial Land use	during reporting		**A**	**B**
Wetlands	Wetlands			
		Sub-total	0	
Total				
ABBREV.			**$A_{flood, total surface}$**	**P**

[1] Land use may be further divided. Use the button to insert sub-categories.

[2] Usually 365 days for annual inventory estimates.

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Average daily diffusive emissions ($Gg\ N_2O\ ha^{-1}\ day^{-1}$)	Total N_2O emissions from flooded lands $D = A * B * C$
C	**D**
	0
	0
	0
	0
$E(N_2O)_{diff}$	**N_2O Emissions $_{WW\ flood}$**

GUIDANCE ON LAND

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Land converted to peat extraction**
WORKSHEET	**WL-2a1: Annual change in carbon stocks in living biomass**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year 1	Area of land converted annually to peat extraction from original land use i
Initial Land use	Land-use during reporting Year		(ha yr^{-1})
			A
Forest Land	Wetlands		
		Sub-total	0
Cropland	Wetlands		
		Sub-total	0
Grassland	Wetlands		
		Sub-total	0
Total			**0**
ABBREV.			A_i

[1] Land-use change may be further divided. Use the buttons to insert sub-categories

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Aboveground biomass immediately following conversion to peat extraction (tonnes d.m. ha^{-1}) **B**	Aboveground biomass immediately before conversion to peat extraction (tonnes d.m. ha^{-1}) **C**	Carbon fraction of dry matter (default = 0.5) [tonnes C (tonnes d.m.)$^{-1}$] **D**
B_{After}	**B_{Before}**	**CF**

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Annual change in carbon stocks in living biomass in land converted to peat extraction (tonnes C yr^{-1}) E = A * (B-C) * D **E**
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LW\ peat\ LB}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Land converted to peat extraction**
WORKSHEET	**WL-2c: Annual carbon stock change in soil** [1]
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	Area of **nutrient-rich** organic soils converted to peat extraction (ha) **A**
Initial Land use	Land-use during		
Forest Land	Wetlands		
		Sub-total	0
Cropland	Wetlands		
		Sub-total	0
Grassland	Wetlands		
		Sub-total	0
Total			**0**
ABBREV.			**$A_{N\text{-}rich}$**

[1] In the case of land converted to peat extraction, only the effect of peat d

[2] Land-use change may be further divided. Use the buttons to insert sub-

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Emission factor for changes in carbon stocks in nutrient rich organic soils converted to peat extraction (tonnes C ha^{-1} yr^{-1}) **B**	Area of **nutrient-poor** organic soils converted to peat extraction (ha) **C**	Emission factor for carbon stocks in nutrient poor organic soils converted to peat extraction (tonnes C ha^{-1} yr^{-1}) **D**
	0	
	0	
	0	
	0	
$EF_{N\text{-}rich}$	**$A_{N\text{-}poor}$**	**$EF_{N\text{-}poor}$**

rainage is considered.

categories.

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3.5.2.1 (p.3.135ff)

a sources in this documentation box.

Annual change in carbon stocks in soil due to drainage of organic soils converted to peat extraction (tonnes C yr^{-1}) E = (A * B) + (C * D)
E
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LW\ peatSoils} = \Delta C_{drainage}$

COUNTRY	**0**
YEAR	**0**
MODULE	**Wetlands**
SUB-MODULE	**Land converted to flooded land (Reservoirs)**
WORKSHEET	**WL-2a2: Annual change in carbon stock in living biomass**[1]
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year[2]	Area of land converted annually to flooded land from land use i	Living biomass immediately following conversion to
Initial Land use	Land-use during reporting Year		(ha yr^{-1})	(default = 0) (tonnes d.m. ha^{-1})
			A	**B**
Forest Land	Wetlands			
		Sub-total	0	
Cropland	Wetlands			
		Sub-total	0	
Grassland	Wetlands			
		Sub-total	0	
Total			**0**	
ABBREV.			A_i	B_{After}

[1] Only carbon stock changes in living above-ground biomass due to conversion to flooded la
year after the conversion (Tier 1).

[2] Land-use change may be further divided. Use the buttons to insert sub-categories.

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Living biomass in land immediately before conversion to flooded land (tonnes d.m. ha^{-1}) **C**	Carbon fraction of dry matter (default = 0.5) [tonnes C (tonnes d.m.)$^{-1}$] **D**	Annual change in carbon stocks in living biomass in land converted to flooded land (tonnes C yr^{-1}) E = A * (B-C) * D **E**
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
B_{Before}	**CF**	**$\Delta C_{LW\ floodLB}$**

nd are considered assuming the carbon stock prior to the conversion is lost the first

GOOD PRACTICE
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tation box.

COUNTRY	**0**
YEAR	**0**
MODULE	**Settlements**
SUB-MODULE	**Settlements Remaining Settlements**
WORKSHEET	**SL-1a: Annual carbon stock change in living biomass** [1]
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [2]	Total crown cover area	Crown cover area-based growth rate
Initial Land use	Land-use during reporting Year		(ha)	[tonnes C (ha crown cover)$^{-1}$ yr^{-1}]
			A	**B**
Settlements	Settlements			
		Sub-total	0	
Total			**0**	
ABBREV.			**A_{CROWN}**	**CRW**

[1] There are two options for a Tier 1 estimation of changes in carbon stock in living biomass: a) crown c
worksheet is based on crown cover area method.

[2] Land use may be further divided. Use the button to insert sub-categories.

[3] Carbon stock change in biomass loss set to zero if the average age of the tree population is less than
change in biomass growth is equal to loss.

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Annual biomass growth (tonnes C yr^{-1}) C = A * B **C**	Annual biomass loss [3] (tonnes C yr^{-1}) **D**	Changes in carbon stocks in living biomass (tonnes C yr^{-1}) E = C - D **E**
0		0
0		0
0	0	0
0	**0**	**0**
ΔB_{SSG}	**ΔB_{SSL}**	**ΔC_{SSLB}**

over area method; and b) tree growth rate method. This

or equal to 20 years; otherwise assume that carbon stock

ACTICE GUIDANCE ON

COUNTRY	**0**
YEAR	**0**
MODULE	**Settlements**
SUB-MODULE	**Land Converted to Settlements (Forest Land Converted to Settlements)**
WORKSHEET	**SL-2a: Annual carbon stock change in living biomass**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area of land converted annually from forest land to settlements	Carbon stock in living biomass immediately following conversion to settlements
Initial Land use	Land-use during reporting Year		($ha\ yr^{-1}$)	($tonnes\ C\ ha^{-1}$)
			A	**B**
Forest Land	Settlements			
		Sub-total	0	
Total			**0**	
ABBREV.			**A**	**C_{After}**

[1] Land-use change may be further divided. Use the button to insert sub-categories.

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Carbon stock in living biomass in forest immediately before conversion to settlements (tonnes C ha^{-1}) **C**	Annual changes in carbon stocks in living biomass due to conversion of forest land to settlements (tonnes C yr^{-1}) D = A * (B - C) **D**
	0
	0
	0
	0
C_{Before}	**$\Delta C_{FSLB\ 1}$**

E GUIDANCE ON LAND

COUNTRY	**0**
YEAR	**0**
MODULE	**Other Land**
SUB-MODULE	**Land Converted to Other Land**
WORKSHEET	**OL-2a: Annual change in living biomass**
SHEET	**1 of 1**

Land-use Category		Sub-categories for Reporting Year [1]	Area of land converted annually to "Other Land" from some initial land uses in the reporting year	Amount of living biomass immediately after conversion to "Other Land"
Initial Land use	Land-use during reporting Year		(ha yr^{-1})	(tonnes d.m. ha^{-1})
			A	**B**
Forest Land	Other Land			
		Sub-total	0	
Cropland	Other Land			
		Sub-total	0	
Grassland	Other Land			
		Sub-total	0	
Wetlands	Other Land			
		Sub-total	0	
Total			**0**	
ABBREV.			**$A_{conversion}$**	**B_{after}**

[1] Land-use change may be further divided. Use the buttons to insert sub-categories.

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Amount of living biomass immediately before conversion to "Other Land" (tonnes d.m. ha^{-1}) C	Carbon fraction of dry matter [tonnes C (tonnes d.m.)$^{-1}$] (default is 0.5) D	Annual change in carbon stocks in living biomass in land converted to "Other Land" (tonnes C yr^{-1}) E = A * (B-C) *D E
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
B_{before}	**CF**	**$\Delta C_{LOLB\ 1}$**

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COUNTRY	**0**
YEAR	**0**
MODULE	**Other Land**
SUB-MODULE	**Land Converted to Other Land**
WORKSHEET	**OL-2c1: Annual change in carbon stocks in mineral soil**
SHEET	**1 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Reference carbon stock (see Table 3.3.3)
Initial Land use	Land-use during reporting Year		(tonnes C ha^{-1})
			A
Forest Land	Other Land		
		Sub-total	
Cropland	Other Land		
		Sub-total	
Grassland	Other Land		
		Sub-total	
Wetlands	Other Land		
		Sub-total	
Total			
ABBREV.			**SOC_{Ref}**

[1] Land-use change may be further divided. Use the buttons to insert sub-categories.

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CHANGE AND FORESTRY*, CHAPTER 3, SECTION 3.7.2.1 (p.3.145f)*

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Stock change factor for land use or land-use change type in the inventory year (see Table 3.3.4) (dimensionless) **B**	Stock change factor for management regime in the inventory year (see Table 3.3.4) (dimensionless) **C**	Stock change factor for input of organic matter in the inventory year (see Table 3.3.4) (dimensionless) **D**
$F_{LU(0)}$	$F_{MG(0)}$	$F_{I(0)}$

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cumentation box.

Soil organic carbon stocks in the inventory year (tonnes C ha^{-1}) E= A * B * C * D **E**
0
0
0
0
0
0
0
0
SOC_0

COUNTRY	**0**
YEAR	**0**
MODULE	**Other Land**
SUB-MODULE	**Land Converted to Other Land**
WORKSHEET	**OL-2c1: Annual change in carbon stocks in mineral soil**
SHEET	**2 of 2**

Land-use Category		Sub-categories for Reporting Year [1]	Time period for the conversion	Land area converted to "Other Land"
Initial Land use	Land-use during reporting Year		(default is 20) (yrs)	(ha)
			F	**G**
Forest Land	Other Land			
		Sub-total		0
Cropland	Other Land			
		Sub-total		0
Grassland	Other Land			
		Sub-total		0
Wetlands	Other Land			
		Sub-total		0
Total				**0**
ABBREV.			**T**	**A**

[1] Note that land-use subcategories for the Reporting Year may be defined in Sheet OL-2c1_

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Reference carbon stock (see Table 3.3.3) (tonnes C ha^{-1}) **H(=A)**	Stock change factor for land use or land-use change type T years prior to the inventory year, (see Table 3.3.4) (dimensionless) **I**	Stock change factor for management regime T years prior to the inventory year (dimensionless) **J**
0		
0		
0		
0		
0		
0		
0		
0		
SOC_{Ref}	**$FLU_{(0-T)}$**	**$FMG_{(0-T)}$**

1de2

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ION 3.7.2.2 (p.3.147f)

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Stock change factor for input of organic matter T years prior to the inventory year (see Table 3.3.4) (dimensionless) **K**	Soil organic carbon stocks T years prior to the inventory year (tonnes C ha^{-1}) L = H * I * J * K **L**
	0
	0
	0
	0
	0
	0
	0
	0
FI(0-T)	**$SOC_{(0-T)}$**

Annual change in carbon stocks in soil organic matter in mineral soils (tonnes C yr^{-1}) M = [(E-L) * G] / F **M**
0
0
0
0
0
0
0
0
0
0
0
0
0
$\Delta C_{LOMineral}$